

NONDESTRUCTIVE ION BEAM IMAGING OF A PARTICULATE TEST FILTER. D.W. Heikkinen, D.H. Morse[†], A.J. Antolak[†], G.S. Bench, and A.E. Pontau[†]

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The characterization of particulates is important in many diverse areas ranging from environmental pollution studies to nonproliferation monitoring. Characterization of particulates may involve size determination and chemical or elemental composition and may be accomplished by differing methods. The method we wish to report on here is the use of ion microbeams and PIXE analysis to determine the location and elemental composition of particles on an uncharacterized test filter supplied by NIST. The filter was scanned with the ion microbeam under a variety of conditions including internal and external irradiations as well as differing ion beam sizes and integrated beam current. The results show the usefulness and effectiveness of ion beam imaging for particulate analysis of filters.

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